of the Second Pan-American Scientific Congress it was stated that: "The third step in the development of the river (forecast) service will be reached when the forecaster can calculate the future height of the water for each station in his district as soon as the storm appears on the weather map. As far as known no attempt is being made at the present time to do this, and as the problems are numerous and very complex it possibly will never be attempted, but it is impossible to be sure of what the future may hold." I believe now that we are making considerable progress in that direction.

To do these things and many others not mentioned, to follow the course of storms and rains across the country, follow the water into the streams, and to precede it down the river to the mouth and to mark at each station and at each dam when it will arrive and how high it will be, require specially trained men and a technical and scientific organization. We do not have the divine-given power, as some seem to believe, of reaching up into the sky and pulling down the desired information, but we must solve our problems and do our work in a natural and scientific way.

The river work of the Weather Bureau in the Ohio Valley has grown rapidly during the last few years, but the facilities for doing the work have not been increased in the same proportion. The number of employees in the Cincinnati office is the same as it was 10 years ago, and during that time the river work probably has doubled. We have been able to take on much of this additional work through the splendid cooperation of the United States Engineers and the daily newspapers in this district. We have been urged and even commanded by our superior officers to economize and to use efficient business methods, and we have complied to the best of our ability. Both of these terms are rather elastic and like all elastic objects can be stretched only to a certain limit. We have stretched the river service to the limit with the funds available and it does not cover the work as it should be covered. There is not a station on the Kentucky River. We do not receive a telegraphic report of a river stage or of the amount of rainfall from a single station in that large and important valley. The rainfall areas over the Kentucky Valley move directly over the Licking and then the Big Sandy and the Kanawha Valleys, and the waters from all of those rivers reach the Ohio at vital spots. As stated in the last report of the Chief of the Weather Bureau, "More river-gaging stations and much more intensive measurement of precipitation are needed. These things can be accomplished with a very reasonable increase in appropriations, and it is hoped that funds will soon be available. As it is, the service is virtually at a standstill so far as field extensions are concerned. One vital need is that of an engineer who can serve as a field man, inspecting stations, making repairs to equipment, making surveys for the establishment of permanent bench marks and other measurements of precision. These surveys are of highest importance."

NOTES, ABSTRACTS, AND REVIEWS.

A CORRECTION.

An abstract entitled "The size of meteors" written upon the recent work of Lindeman and Dodson was reprinted in the MONTHLY WEATHER REVIEW for June, 1923, page 316. The authors have stated to the editor that their view as expressed in the closing paragraph of the above-named abstract is better represented by the following: "Our view is that the short-wave radiation from the sun must give rise to the formation of ozone, and while this will never be found in more than a small pro portion, it may greatly modify the radiative equilibrium. Thus, it is known that all the sun's radiation of shorter wave length than 3,000 Å is absorbed in the upper air and will raise the temperature at those heights considerably. The earth's radiation will only be absorbed by ozone over a small range of wave length, about 9.5 μ, and the temperature can never be raised above approximately the temperature of the stratosphere by this cause."

CENTRAL METEOROLOGICAL OBSERVATORY AT TOKYO BURNED.

American friends of Japanese meteorologists will be interested in a recent letter from Dr. S. Fujiwhara, of the Central Meteorological Observatory at Tokyo. Doctor Fujiwhara reports that in the great fire which followed the recent severely destructive earthquake in Japan the main building of the Central Observatory was destroyed. Many instruments and books were lost, and the official residences of the staff were burned. Fortunately, the Tokyo meteorological records covering a period of 40 years were saved.

Doctor Fujiwhara reports the interesting fact that hourly observations were continued throughout the fire, and that at midnight, when the main building was burned, the temperature in a shelter about 200 feet distant rose to 46.4° C. (115° F.). This effort to keep a continuous record in spite of the great difficulties under which the observers were working evidently is characteristic of the efforts that are being made to restore normal conditions as rapidly as possible.—*C. L. M.*

GREAT BRITISH DROUGHTS.

Mr. Chas. Harding in *Nature*, July 14, 1921, discusses briefly the record of droughts in Great Britain in connection with the one which has prevailed since October, 1920. Since that time the rainfall at Greenwich Observatory has been but 9.78 inches, or 56 per cent of the normal. The controlling factors of the weather associated with drought in Great Britain have been a low barometer to the north of the British Isles and a relatively higher barometer with anticyclonic conditions in the south of England; in other words, an extension of the Azores HIGH toward and over southern England and the Channel.

Mr. Harding's definition of absolute and partial drought is particularly interesting. The writer of this note, in compiling the statistics of drought published in Bulletin Q–Climatology of the United States, adopted the following as applicable to the United States east of the 100th meridian. A drought was considered to have existed whenever the rainfall for 21 days or longer amounted to 30 per cent less of the seasonal normal.

Mr. Harding defines absolute drought as a period of more than 14 days without rain, and partial drought as a period of more than 28 days the aggregate rainfall of which does not exceed 0.01 inch per diem.—*A. J. H.*